

REMARKS

Applicant thanks the Examiner for acknowledging each of the documents listed on Forms PTO-1449 submitted with the Information Disclosure Statement submitted on April 22, 2004. However, U.S. Patent Application Publication No. 2002-0101525 was incorrectly listed on the Information Disclosure Statement and Form PTO-1449 as 2002-010525. Accordingly, to ensure consideration of U.S. Patent Application Publication No. 2002-0101525, a Form PTO-1449 correctly listing U.S. Patent Application Publication No. 2002-0101525 is attached hereto.

Applicant also thanks the Examiner for acknowledging acceptance of the drawings filed with the present application on January 23, 2004. Applicant also thanks the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. §119, as well as receipt of a certified copy of the priority document upon which the claim for foreign priority is based.

In the outstanding Office Action, the specification was objected-to for perceived informalities. The title was objected-to as being non-descriptive of the invention to which the pending claims are directed. Claims 1-4 were rejected under 35 U.S.C. §102(b) over CHEN et al. (U.S. Patent Application Publication No. 2002/0047907).

Upon entry of the present amendment, Applicant will have replaced the Title of the application as filed with the replacement Title "IMAGE PROCESSING USING PIXEL DATA CORRELATIONS". While the original Title of the application as filed was believed adequately descriptive of the invention to which the claims are directed, the Title has been replaced as noted in order to expedite prosecution of the present application. Accordingly, reconsideration and withdrawal of the objection to the Title is respectfully requested. Of course, if the Examiner believes that a different replacement Title would be more appropriate, the Examiner is encouraged to suggest such a different replacement Title in the next Office Action.

Applicant traverses the objection to the specification at page 1. In this regard, the term “data” in the noted portion of page 1 refers to data for multiple pixels, and is therefore correctly used in the plural form as presented. Accordingly, reconsideration and withdrawal of the objection to the specification at page 1 is respectfully requested.

Upon entry of the present amendment, Applicant will have submitted a replacement paragraph to correct the noted informality at page 10. Accordingly, reconsideration and withdrawal of the objection to the specification at page 10 is respectfully requested.

Applicant traverses the rejection of claims 1-4 over CHEN. In this regard, upon entry of the present amendment, claim 3 will have been cancelled without prejudice to or disclaimer of the subject matter recited therein, and claim 1 will have been amended to incorporate substantially all of the features previously recited in claim 3. Claim 4 will have been amended to ensure consistency between the recitations thereof and the recitations of amended claim 1.

CHEN is directed to an apparatus for interpolating image data. Color correlations for an objective pixel are obtained in vertical, horizontal and oblique directions (see, e.g., paragraphs [0056] to [0068]). Interpolation is performed based on the obtained color correlations, and various interpolation cases are shown in CHEN with respect to Figure 5.

According to the pending claims, the first correlation value calculating processor calculates correlations using pixels in the vertical and horizontal directions of an objective pixel. However, the second correlation value calculating processor calculates correlations using four peripheral pixels specified as being to the upper left, upper right, lower left and lower right of the objective pixel. The features of the second correlation value calculating processor recited in amended claim 1 are shown, by way of example, with respect to coefficient d in Formula (4) in the present specification, and described from page 12, line 8 to page 13, line 10.

The horizontal correlations by the second correlation value calculating processor are calculated using G-pixel data of the G-pixels which are adjacent to the right and to the left of each of the four peripheral pixels. In the embodiment shown in Figure 3, with respect to pixel R23, the horizontally adjacent G-pixels would be G11 and G13 (for B12), G13 and G15 (for B14), G31 and G33 (for B32) and G33 and G35 (for B34). The vertical correlations by the second correlation value calculating processor are calculated using G-pixel data of the G-pixels adjacent above and below each of the four peripheral pixels. In the embodiment shown in Figure 3, with respect to pixel R23, the vertically adjacent G-pixels would be G02 and G22 (for B12), G04 and G24 (for B14), G22 and G42 (for B32) and G24 and G44 (for B34). None of the similarity calculations in CHEN use any of these relationships, let alone such relationships for “each of” the peripheral pixels as recited in amended claim 1.

For CHEN to disclose the features of the second correlation value calculating processor of claim 1, the formulas for similarity calculations in CHEN would include horizontal terms:

$|G[i-2, j-1] - G[i, j-1]|$; $|G[i, j-1] - G[i+2, j-1]|$; $|G[i-2, j+1] - G[i, j+1]|$; and $|G[i, j+1] - G[i+2, j+1]|$, or reversed terms within any or all of the absolute value symbols.

For CHEN to disclose the features of the second correlation value calculating processor of claim 1, formulas disclosed in CHEN would include vertical terms:

$|G[i-1, j-2] - G[i-1, j]|$; $|G[i-1, j] - G[i-1, j+2]|$; $|G[i+1, j-2] - G[i+1, j]|$; and $|G[i+1, j] - G[i+1, j+2]|$, or reversed terms within any or all of the absolute value symbols.

As should be evident, none of the formulas in CHEN includes any of the above-noted comparisons to determine correlation.

As described above, the similarity calculations in CHEN do not compare green values of pixels in the positions as recited in amended claim 1. Further, the cases shown

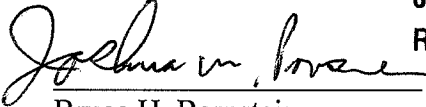
in Figure 5 of CHEN disclose which pixels contribute to curvature information of a green interpolated value (see paragraph [0129]), and not which pixels are used in the similarity calculations. Accordingly, CHEN does not disclose any of the correlation calculations as recited with respect to the second correlation value calculating processor of claim 1 (i.e., with respect to the absolute value calculations), let alone a set of correlation calculations as recited in amended claim 1.

Accordingly, reconsideration and withdrawal of the outstanding objections and rejection is respectfully requested.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attached thereto.

Should there be questions, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,
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